INTERNATIONAL STANDARD

ISO 5019-6

Second edition
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Refractory bricks — Dimensions —

Part 6: Basic bricks for oxygen steel-making converters

Briques réfractaires — Dimensions —
Partie 6: Briques basiques pour convertisseurs à oxygène

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 5019-6 was prepared by Technical Committee ISO/TC 33, *Refractories*.

This second edition cancels and replaces the first edition (ISO 5019-6:1984), of which Table 1 has been extended to include sizes from 850 mm to 1 000 mm, in 50 mm increments, and from 1 000 mm to 1 200 mm, in 100 mm increments, maintaining the existing tapers.

ISO 5019 consists of the following parts, under the general title *Refractory bricks — Dimensions*:

— *Part 1: Rectangular bricks*

— *Part 2: Arch bricks*

— *Part 3: Rectangular checker bricks for regenerative furnaces*

— *Part 4: Dome bricks for electric arc furnace roofs*

— *Part 5: Skewbacks*

— *Part 6: Basic bricks for oxygen steel-making converters*

Introduction

This International Standard is intended to provide standardized sizes of bricks from which to construct the working/hot-face lining for basic oxygen steel-making converters. It provides for 18 thicknesses of lining, ranging from a minimum of 250 mm to a maximum of 1 200 mm.

For each lining thickness, there is a rectangular brick (i.e. a brick with zero taper) and bricks with either

— four rates of taper for the five smallest thicknesses, or

— five or six rates of taper for the remaining thicknesses.

All the bricks have a constant median dimension of 150 mm. The course height is uniformly 100 mm.

Refractory bricks — Dimensions —

Part 6: Basic bricks for oxygen steel-making converters

1 Scope

This part of ISO 5019 specifies the dimensions of basic refractory bricks for use in oxygen steel-making converters.

The calculated volume of each size of brick is shown, for information, in Table 1, and also the internal diameter of lining for which each size is suitable, if used alone. These diameters have been calculated with no allowance for joint thickness.

2 Dimensions

The dimensions of basic bricks for use in oxygen steel-making converters shall be as shown in Table 1.

The symbols designating the dimensions in Table 1 are shown in Figure 1.

NOTE These symbols do not necessarily apply to tables and figures in other International Standards.

3 Brick designations

Each brick size has a conventional designation, as shown in the first column of Table 1. Each designation consists of two groups of digits separated by a solidus (slash).

The group of two digits before the solidus shows the brick length (or lining thickness), in centimetres. It corresponds to $A/10$.

The group after the solidus shows the difference, $C - D$, between the cold-face and hot-face dimensions in millimetres (i.e. the rate of taper). In the case of a rectangular brick, the second group is a single zero.

4 Tolerances

Tolerances on the dimensions specified in Table 1 shall be the subject of agreement between the purchaser and the supplier.

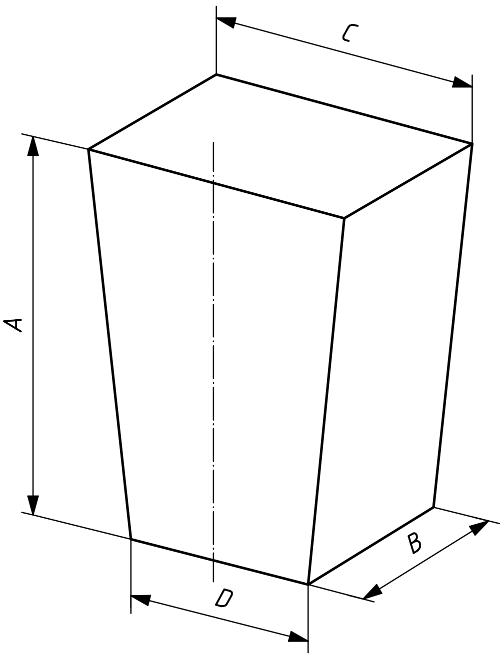

Figure 1 — Brick for oxygen steel-making converters

Table 1 — Dimensions of basic bricks for oxygen steel-making converters

Designation	Dimensions mm			Internal diameter	Volume
	A	*B*	*C*/*D*	m	dm³
25/60	250	100	180/120	1,000	3,75
25/30			165/135	2,250	
25/16			158/142	4,438	
25/8			154/146	9,125	
25/0			150/150	—	
30/70	300	100	185/115	0,986	4,50
30/40			170/130	1,950	
30/20			160/140	4,200	
30/8			154/146	10,950	
30/0			150/150	—	
35/80	350	100	190/110	0,963	5,25
35/40			170/130	2,275	
35/20			160/140	4,900	
35/8			154/146	12,775	
35/0			150/150	—	

Table 1 (*continued*)

Designation	Dimensions mm			Internal diameter	Volume
	A	*B*	*C*/*D*	m	dm^3
40/80	400	100	190/110	1,100	6,00
40/40			170/130	2,600	
40/20			160/140	5,600	
40/8			154/146	14,600	
40/0			150/150	—	
45/90	450	100	195/105	1,050	6,75
45/40			170/130	2,925	
45/20			160/140	6,300	
45/8			154/146	16,425	
45/0			150/150	—	
50/100	500	100	200/100	1,000	7,50
50/60			180/120	2,000	
50/36			168/132	3,667	
50/20			160/140	7,000	
50/8			154/146	18,250	
50/0			150/150	—	
55/110	550	100	205/95	0,950	8,25
55/80			190/110	1,513	
55/60			180/120	2,200	
55/36			168/132	4,033	
55/20			160/140	7,700	
55/8			154/146	20,075	
55/0			150/150	—	
60/120	600	100	210/90	0,900	9,00
60/80			190/110	1,650	
60/60			180/120	2,400	
60/36			168/132	4,400	
60/20			160/140	8,400	
60/8			154/146	21,900	
60/0			150/150	—	
65/120	650	100	210/90	0,975	9,75
65/80			190/110	1,788	
65/60			180/120	2,600	
65/36			168/132	4,767	
65/20			160/140	9,100	
65/8			154/146	23,725	
65/0			150/150	—	

Table 1 (*continued*)

Designation	Dimensions mm			Internal diameter	Volume
	A	*B*	*C*/*D*	m	dm^3
70/120	700	100	210/90	1,050	10,50
70/80			190/110	1,925	
70/60			180/120	2,800	
70/36			168/132	5,133	
70/20			160/140	9,800	
70/8			154/146	25,550	
70/0			150/150	—	
75/120	750	100	210/90	1,125	11,25
75/80			190/110	2,063	
75/60			180/120	3,000	
75/36			168/132	5,500	
75/20			160/140	10,500	
75/8			154/146	27,375	
75/0			150/150	—	
80/120	800	100	210/90	1,200	12,00
80/80			190/110	2,200	
80/60			180/120	3,200	
80/36			168/132	5,867	
80/20			160/140	11,200	
80/8			154/146	29,200	
80/0			150/150	—	
85/120	850	100	210/90	1,275	12,75
85/80			190/110	2,338	
85/60			180/120	3,400	
85/36			168/132	6,233	
85/20			160/140	11,900	
85/8			154/146	31,025	
85/0			150/150	—	
90/120	900	100	210/90	1,350	13,50
90/80			190/110	2,475	
90/60			180/120	3,600	
90/36			168/132	6,600	
90/20			160/140	12,600	
90/8			154/146	32,850	
90/0			150/150	—	

Table 1 (*continued*)

Designation	Dimensions mm			Internal diameter	Volume
	A	*B*	*C*/*D*	m	dm^3
95/120	950	100	210/90	1,425	14,25
95/80			190/110	2,613	
95/60			180/120	3,800	
95/36			168/132	6,967	
95/20			160/140	13,300	
95/8			154/146	34,675	
95/0			150/150	—	
100/120	1000	100	210/90	1,500	15,00
100/80			190/110	2,750	
100/60			180/120	4,000	
100/36			168/132	7,333	
100/20			160/140	14,000	
100/8			154/146	36,500	
100/0			150/150	—	
110/120	1100	100	210/90	1,650	16,50
110/80			190/110	3,025	
110/60			180/120	4,400	
110/36			168/132	8,067	
110/20			160/140	15,400	
110/8			154/146	40,150	
110/0			150/150	—	
120/120	1200	100	210/90	1,800	18,00
120/80			190/110	3,300	
120/60			180/120	4,800	
120/36			168/132	8,800	
120/20			160/140	16,800	
120/8			154/146	43,800	
120/0			150/150	—	